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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/583,729	05/31/2000	KENJI OMI	106330	2767

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EXAMINER

MULLINS, BURTON S

ART UNIT	PAPER NUMBER
2834	

DATE MAILED: 07/05/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/583,729

Applicant(s)

OMI

Examiner

Burton S. Mullins

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 May 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 3 and 4 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 3 and 4 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 May 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "displacement created between the outer surface of the shaft and the inner surface of the inner ring abutting the outer surface of the shaft" must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 3-4 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The specification does not describe the function of "adjusting the position of each of the inner races through a displacement created between the outer surface of the shaft and the inner surface of the inner race abutting the outer surface of the shaft" nor does the specification adequately describe how this displacement is "created in

relation to" the gap L_3 (Fig.2). Where does the specification describe a "displacement"? What is the "relation" between this displacement and the gap? Are the inner races 8b and 9b secured to the shaft or loosely fit thereon? Where does the specification describe this feature, which appears to be critical if the inner races move both axially and radially, as applicant argues in the reply. In light of this argument, where does the specification describe radial movement of the inner races?

4. Claims 3-4 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. How would one of ordinary skill be able to adjust the position of each of the inner races through a displacement created between the outer surface of the shaft and the inner surface of the inner race abutting the outer surface of the shaft? From Fig.2 and the description on p.5, third paragraph, it appears only one inner race 8b is movable axially by means of spring 14. How is the position of the other inner race 9b adjusted "through the displacement", in particular how is it adjustable radially? Further, what prevents the spring 14 from pushing the inner race 8b such that it abuts the other inner race 9b and thus eliminates the gap L_3 (Fig.2)?

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 3-4 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The functional language "adjusting the position of each of the inner races

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through a displacement created between the outer surface of the shaft and the inner surface of the inner race abutting the outer surface of the shaft, the displacement created in relation to a gap which is formed between a side face of the inner races after the bearings are inserted..." is vague and indefinite because it is not clear how a "displacement" is created in relation to the gap between the inner races. Does this mean that in Fig.2, both inner races 8b and 9b are loosely fit onto the shaft? It appears only one inner race 8b is movable axially by means of spring 14. How is the other position of the other inner race 9b adjusted radially "through the displacement"?

Claim Rejections - 35 USC § 103

7. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
8. Claims 3-4, as best understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Wrobel (US 5,274,289) in view of Schmidt et al. (US 4,867,581). Wrobel teaches the basic fan motor structure including a shaft 14 supported by dual ball bearings 12a in a plastic bearing box 11a; a ring magnet 13a; and a stator 11 with windings (not numbered) supplied with current. The ball bearings are inserted from one side and secured by clip 20. The inner race of one bearing is pushed by spring 5 toward the other bearing (Fig.1).

Wrobel does not teach that the outer race of each bearing is longer axially than the inner race, such that a gap is created between the inner races, which in turn relates to a "displacement" between the inner races and the shaft.

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Schmidt teaches a motor comprising: a shaft 1 supported by bearings 3 and 4 and a ring-like magnet 81 provided on the rotor (cover 8), wherein the shaft 1 and the rotor 8 rotate due to a magnetic interference function between the magnet 81 and a winding 14 provided at a position of a stator 7 corresponding to the magnet, which is supplied with a current, the motor characterized in that, in a bearing box (bearing housing 2), the two ball bearings 3 and 4 each having an inner race 31'/32' and an outer race 41'/42' (Fig.4, c.3, lines 33-38), each inner race 31'/41' narrower than the outer race 32'/42', inserted from one side of the motor (c.2, lines 46-48; c.3, lines 4-22), wherein the inner race 31'/41' of each of the ball bearings is mounted to the shaft so that coaxiality and position of the ball bearings are maintained in order by adjusting the position of each of the inner races by means of a spring washer 5' (Fig.4; c.3, lines 33-38). The spring braces the inner races axially against each other, and thus the inner races are movable with respect to each other on the shaft, so that a displacement is created between the outer surface of the shaft and the inner surface of the inner race abutting the outer surface of the shaft. This displacement is created in relation to the gap (not numbered, see Fig.4) formed between a side face of the inner races after the bearings are inserted into the bearing box (the gap holds spring washer 5') in such a manner that a side face of the outer race 32'/42' of each of the bearings abut each other (see Fig.4). Schmidt's bearing arrangement reduces axial spacing and noise in the motor (abstract).

It would have been obvious to modify Wrobel and provide bearings per Schmidt in which the outer race of each bearing is longer axially than the inner race, such that a gap is created between the inner races, since this would have been desirable to provide a low-noise bearing support with reduced axial spacing.

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Regarding claim 4, in Wrobel spring 5 would push the inner race of one of the ball bearings toward the other ball bearing.

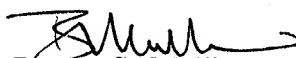
Response to Arguments

9. Applicant's arguments with respect to claims 3-4 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Burton S. Mullins whose telephone number is 305-7063. The examiner can normally be reached on Monday-Friday, 9 am to 5 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on 308-1371. The fax phone numbers for the organization where this application or proceeding is assigned are 305-1341 for regular communications and 305-1341 for After Final communications. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 308-0956.


Burton S. Mullins
Primary Examiner
Art Unit 2834

bsm
June 28, 2002